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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/614,779

07/09/2003

Hiroshi Sato

HITA.0414

8577

38327

7590

05/26/2004

REED SMITH LLP

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FALLS CHURCH, VA 22042

EXAMINER

MAI, HUY KIM

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,779

Applicant(s)

SATO ET AL.

Examiner

Huy K. Mai

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/9/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement filed on Jul. 9, 2003 is acknowledged.

Oath/Declaration

2. The declaration filed on Jul. 9, 2003 is acceptable.

Claim Objections

3. Claims 22,23 are objected to because of the following informalities: The word "structures" (claim 22, lines 2,3 and claim 23, lines 2,3) should read --structure--; otherwise, the phrases "said first layered structures" (claim 22, line 2; claim 23, line 2) and "said second layered structures" (claim 22, lines 2-3; claim 23, lines 2-3) have no antecedent basis. The phrase "a modulator laser part" (claim 23, line 2) should read --a modulator part--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanishi (6,343,163) in view of Lee et al (the 2001 articles).

Kawanishi discloses in Figs. 1-13 an optoelectronic waveguide device comprising DFB laser part 106, an electro-absorption modulator part 102 and an optical waveguide 140 optically connects the laser part and the modulator part, wherein the optical waveguide 140, the optical waveguide

120 and/or the absorbing layer 122 have a bulk crystal structure. He also discloses in Fig. 4B, a method of manufacturing a semiconductor optical device. However, He lacks of the steps of etching said second resist layer to remove a crystal defect formed between said first and second optoelectronic elements; and forming a waveguide from said etched crystal defect area, wherein said waveguide from a bulk crystal optically connects said first and second optoelectronic elements. Lee et al address, in his articles, the attractiveness of the electro-absorption modulator integrated distributed feedback laser and the needs to develop the butt-coupling integration technique between laser and the modulator integration. He also suggest to remove the damage layer prior to selective regrowth of MQM modulator structure to form his defect-free growth of InGaAsP/InGaAsP strain compensated MQM modulator. Therefore it would have been obvious to a person having skilled in this art to modify the optoelectronic waveguide device in the Kawanishi reference in light of Lee et al's teaching by removing a crystal defect formed between said first and second optoelectronic elements; and forming a waveguide from said etched crystal defect area to provide a defect-free crystal grown in the electro-absorption modulator integrated distributed feedback laser as the same as the applicant does.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy Mai whose telephone number is (571) 272-2334. The examiner can normally be reached on M-F (8:00 a.m.-4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.



Huy Mai
Primary Examiner
Art Unit 2873

HKM/
May 24, 2004